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7590	04/13/2011		EXAMINER	
David Silverstein Andover-IP-Law Suite 300 44 Park Street Andover, MA 01810			YAMNITZKY, MARIE ROSE	
			ART UNIT	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/589,183	Applicant(s) KATHIRGAMANATHAN ET AL.	
	Examiner Marie R. Yamnitzky	Art Unit 1786	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 January 2011.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 30,31,34 and 38-55 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 30,31,34 and 38-55 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 January 2011 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

1. This Office action is in response to applicant's amendment filed January 25, 2011, which amends the specification, the abstract, and claims 30, 31, 34, 38, 40, 42 and 44-46, cancels claims 29, 32, 33 and 35-37, adds claims 49-55, and provides a complete set of replacement drawings (consisting of 10 sheets of drawings).

Claims 30, 31, 34 and 38-55 are pending.

2. The objection to the abstract for reasons set forth in the Office action mailed September 28, 2010 is overcome by the replacement abstract filed January 25, 2011. However, there is an issue of new matter as set forth later in this action.

Most of the issues raised in the objection to the disclosure for informalities as set forth in the September 28th action are overcome by amendment. Remaining issues, and new issues raised by the amendment are set forth later in this action.

The rejection of claims 29-48 under 35 U.S.C. 112, 1st paragraph, for lack of enablement, is partly rendered moot by claim cancellation and otherwise overcome by claim amendment.

The rejection of claims 29-48 under 35 U.S.C. 112, 2nd paragraph, is partly rendered moot by claim cancellation and otherwise overcome by claim amendment. New issues raised by the amendment are set forth later in this action.

All prior art rejections set forth in the September 28th action are partly rendered moot by claim cancellation and otherwise overcome by claim amendment. The five previously applied prior art references do not disclose or suggest the presently claimed subject matter.

3. Replacement drawing sheets 1/10 through 7/10, 9/10 and 10/10 are acceptable. However, the drawings are objected to because replacement drawing sheet 8/10 contains an error in the formula for mTADATA. The “floating” CH₃ (the CH₃ which is not connected to any ring) needs to be deleted in the mTADATA formula. A corrected drawing sheet in compliance with 37 CFR 1.121(d) is required in reply to the Office action to avoid abandonment of the application.

Replacement drawing sheets 9/10 and 10/10 overcome specific issues raised in the objection to the drawings as set forth in the Office action mailed September 28, 2010. These drawing sheets are sufficient for examination purposes and accepted by the examiner. However, presuming that the application is eventually found to be allowable, it is possible that a determination may be made subsequent to allowance by someone involved in the publication process that the drawings are deficient for publication purposes (e.g. due to what appear to be copier marks on these two replacement sheets).

4. The disclosure is objected to because of the following informalities:

The amendment filed January 25, 2011 adds a paragraph to page 1 of the specification indicating that the present application “claims benefit of the filing date” of an international application. A U.S. application may claim benefit of an international application filing date in more than one way (e.g. as a national stage application under 35 U.S.C. 371, or as a continuing application under 35 U.S.C. 111(a)), and the paragraph does not specify how benefit is claimed. The paragraph added to page 1 needs to be amended to clarify that the present application is a national stage application of the international application.

The brief description of the drawings that has been added between lines 12 and 14 on page 2 of the specification refers to Example 8 in the description of Fig. 1. However, page 28 of the specification indicates that the device structure of Example 1 is shown in fig. 1. Although the device of Example 8 is described on page 30 as being made as in Example 1, the brief description of the drawings should refer to Example 1 since Example 1 is the only place where the reference numbers used in Fig. 1 are set forth.

Page 3, line 17 recites “ $n+2$ is the valency of M”. This recitation defines “ n ” in formulae that are not shown as having any overall charge. However, based on the nature of the ligands in the formulae, if $n+2$ is the valency of M, then the complexes represented by the formulae must have an overall charge of +1. The exemplified iridium complexes have three monoanionic ligands and are not charged complexes, so the valency of the iridium in the exemplified complexes is apparently 3 (i.e. $n+1$, rather than $n+2$).

Appropriate correction is required.

5. The amendment filed January 25, 2011 is objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure. 35 U.S.C. 132(a) states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows:

The chemical formula shown in the abstract (which is also shown in new claim 49 and as the first formula in new claim 55) includes variables R_1 , R_2 and R_3 attached to a benzothienylpyridine ligand. This differs from the original disclosure, which only showed

variables R_1 and R_3 attached to a benzothienylpyridine ligand (e.g. compare to original formula (II) on page 2). Support for the formula in which an additional variable is attached to the benzothienylpyridine ligand is not clear.

Applicant is required to cancel the new matter in the reply to this Office Action.

6. Claims 30, 31, 34 and 38-55 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claims contain subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Support for the formula shown in claim 49 and the first formula shown in claim 55 is not clear. See the corresponding remarks set forth above in the objection to the amendment. Also note how the scope of a claim such as claim 34 is altered by the presence, or lack thereof, of variable R_2 on the benzothienylpyridine ligand in the claim 49 formula. Compound K, which is used in the device of Example 8 and is the same as Compound E, is not within the scope of present claim 34 although it was within the scope of previous claim 34.

Clarification is required with respect to support for the definition of R as set forth in part “c)” of claim 40. Claim 40 defines R as “alkyl or aryl” (first line on pages 15 and 20 of the amendment). Although the specification does define R as “alkyl or aryl” at page 8, line 19, this definition immediately follows a formula that does not contain R, and is different from the definition of R as set forth at page 8, lines 16-18.

With respect to the first formula in part “c)” of claim 40, page 9, line 3 of the specification states “R is as defined above”. Given the location of R in the polyaniline structure of this formula, it appears to the examiner that the definition of R as set forth at p. 8, l. 16-18 should apply for the first formula in part “c)”.

With respect to the second through ninth formulae in part “c)” of claim 40, these formulae are shown in Figures 4 and 5. The variable “R” is not explicitly defined in reference to the formulae shown in Figures 4 and 5 (e.g. see page 12, lines 5-16). It is not clear from the original disclosure whether the variable “R” in the formulae now shown as the second through ninth formulae in claim 40 has the meaning set forth at page 8, line 16-18, or at page 8, line 19, or some other meaning. (The examiner notes that the variable “R₄” as shown in the tenth through thirteenth formulae in claim 40 is not explicitly defined on page 12 in reference to these formulae as shown in the figures. However, given the structure of the formulae containing the variable R₄, one of ordinary skill in the art would reasonably expect the variable R₄ to have the same scope as the variables R₁, R₂ and R₃ as defined on page 12 in reference to these formulae.)

7. Claims 40 and 55 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 40, the formula for mTADATA contains an error. The “floating” CH₃ (the CH₃ which is not connected to any ring) needs to be deleted in the mTADATA formula.

In claim 55, the formula for the compound to be made by the method includes variables R_1 , R_2 and R_3 attached to a benzothienylpyridine ligand whereas the formula for the reactant that supplies benzothienylpyridine ligands (the second formula in claim 55) only includes variables R_1 and R_3 attached to the benzothienylpyridine ligands. Accordingly, the reactants depicted in claim 55 do not provide the full scope of compounds represented by the first formula in the claim.

In claim 55, the third formula is shown with a line extending to the left from each oxygen. These lines should be deleted as they may be misinterpreted as representing methyl groups. Also, since the reactant is a ketone, it would be more accurate to show the reactant with a double bond between the upper oxygen and the carbon to which is attached, and a single bond (instead of a double bond) between that carbon and the adjacent carbon of the ring. Compare to the pattern of double and single bonds in the second formula in the reaction scheme at the bottom of page 21 in the specification.

8. Miscellaneous:

Claim 45: A period needs to be inserted after the last formula.

Claim 50: "heterocyclic groups" is recited twice.

On page 7 of the specification, formula (IV) contains an error in showing the second bracket to the right of Ir rather than to the left of Ir. Applicant is respectfully requested to correct the formula.

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9. Claims 30, 31, 34 and 38-55 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 1st and 2nd paragraphs, set forth in this Office action, and with correction of the informalities noted for claims 45 and 50.

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

11. Any inquiry concerning this communication should be directed to Marie R. Yamnitzky at telephone number (571) 272-1531. The examiner works a flexible schedule but can generally be reached at this number from 7:00 a.m. to 3:30 p.m. Monday and Wednesday-Friday.

The current fax number for all official faxes is (571) 273-8300. (Unofficial faxes to be sent directly to examiner Yamnitzky can be sent to (571) 273-1531.)

/Marie R. Yamnitzky/
Primary Examiner, Art Unit 1786

MRY
April 08, 2011